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# Rational Enquiry INTO THE NATURE OF THE PLAQUE: DRAWN FROM *Historical Remarks*

On those that have already happen'd.

S H E W I N G,

That as the AIR only is capable of producing, or communicating it; the METHOD of Prevention now practis'd in FRANCE, is not only inhumane, but useless, and even pernicious.

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*Felix qui potuit rerum cognoscere causas.*

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By J. PRINGLE, M. D.

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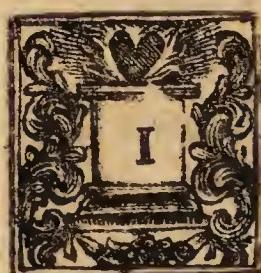
L O N D O N

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To the Right Worshipful  
*Sir Hans Sloane, Bart.*  
P R E S I D E N T,  
T H E  
CENSORS and FELLOWS  
OF THE  
*College of PHYSICIANS*  
*in London.*



T being the Duty of all Men, (but more especially those who profess Physick) to contribute as much as in them lies, (in this General Consternation from the Plague,) towards the Safety of their Fellow-Subjects; I most humbly submit these my pri-

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# *The Dedication.*

vate Thoughts to your Consideration,  
as best capable of judging how far  
they may be useful to the Publick  
Good, and how they may most effectu-  
ally be apply'd to that Purpose.

I F it be my Happiness, in the  
following Hypothesis, to advance any  
Thing that can deserve your Appro-  
bation, and which thereby may be  
render'd serviceable to the common  
Welfare, it is the utmost Satisfaction  
I proposed in making it publick.

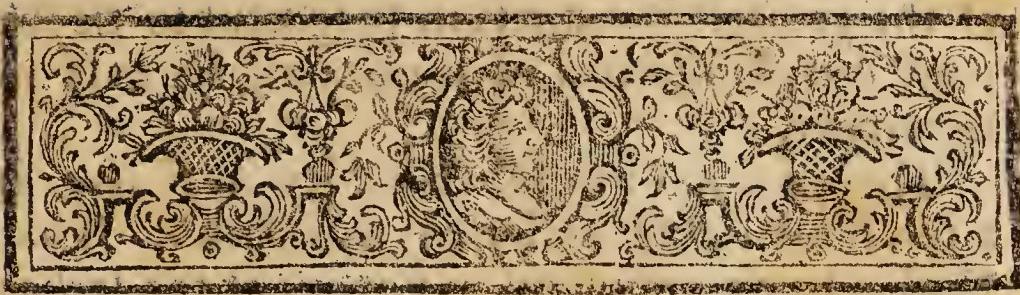
*I am,*

*With the greatest Respect,*

*Your most Humble,*

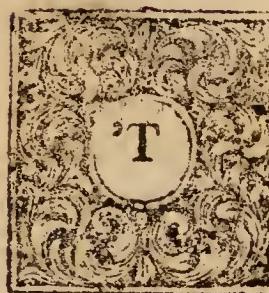
*And most Obedient Servant,*

*J. Pringle.*



A

# Rational Enquiry INTO THE NATURE OF THE PLAUGE.



IS a receiv'd Maxim in Physick, that our Ignorance of Causes, is the greatest Check to a successful Practice; for if we trace not our Enquiry to the first Movement that fail'd in the Animal Machine, we never can, with any Certainty, remedy the Defect, or rectify and regulate its Motion.

\* An Assent to Principles, without an Examination, is the common *Ignis Fatuus* that misleads The D<sup>r</sup> for into Error; and as a blind Submission to what-

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\*NB  
ever Pag. 3. which  
see at this  
mark †

ever is dogmatically advanc'd, is an Argument of the greatest Weakness in Judgment, so 'tis the most certain Method of continuing for ever in Ignorance.

The present dreadful Calamity in *France*, is a too fatal Confirmation of this Truth. That Nation being prejudic'd in Favour of the *Italian* Notions, has unwarily admitted some false Principles, from which very wrong Conclusions have been drawn ; and in Consequence of which, they have hitherto follow'd, and seem resolv'd to pursue a Method so unfortunately enter'd upon, and which has never been attended with the least Shew of Success ; but, on the contrary, with the Destruction of the Subject, and the Addition of Cruelty, even in Death.

Thus have they long amus'd themselves with Lines and Entrenchments ; and placing their Security in a speedy Retreat, endeavour to escape the Fury of this direful Enemy, by casting up, continually, Lines before it, as it advances ; not regarding, that as the Country, for some Leagues behind, must be always ransack'd for Provisions to supply the Troops with, on their Retreat ; all the People hem'd in between the Lines, and not allow'd to follow, must be reduc'd to the most deplorable Circumstances ; and being attack'd on all Sides with the Sword, Pestilence, and Famine, (the last of which has been most fatal) they receive, with Pleasure, the first Enemy, that rids them of a Life, that can't, in Thought, be fram'd sufficiently miserable.

This is too melancholy a Subject to expatiate on, in a Country where Good Nature is its distinguishing Character ; but yet, if the Ruin of Trade,

Trade, the Loss of many thousand Lives, the impoverishing the Subject, and the total Extinction of all Charity and Humanity to Fellow-Creatures, are the immediate and unavoidable Consequences of such Principles, 'tis a Duty incumbent on every *Britton* to oppose them in the Bud, and prevent their being propagated in a Climate, of which they never can <sup>This is said gratis, and contrary to his own maxim laid down</sup> naturally be the Product.

That the present Method, so unsuccessfully practis'd in *France*, and advanc'd already here, <sup>(and distinct Nations) and destructive of the two subsequent Propositions.</sup> is of no Security to us, but, on the contrary, highly destructive, I shall endeavour to shew from the two following Propositions, *viz.*

*First, That neither Goods nor Persons are capable of producing or communicating the Plague.*

*Secondly, That the Air only is the Cause; and therefore, that Lines and Quarantines are not only useless, but pernicious.*

To evince the Truth of which Propositions, I shall first instance some few Historical Remarks on Plagues in general, and particularly on those that have been in *London*, and then proceed to examine the Propositions themselves.

The Difference to be met with in Physical Writers in the Definition of a Plague, may easily be reconcil'd, if we consider the Alterations it must necessarily receive by the Change of Climates, and Variety of Constitutions; but in general, any Epidemick, unusual, spreading Sicknes may be allow'd the Appellation; but if attended with Buboes, Carbuncles, and other malignant Symptoms, 'tis essentially distinguish'd as such.

That *England* has been frequently visited with Plagues, all our Histories agree in ; but the Bills of Mortality not commencing till 1592, few Particulars to be depended upon, have been transmitted down to us, capable of giving any Light to our present Enquiry ; but, in general, Meteors in the Air, Dearth, severe Frosts, heavy Rains, Swarms of Insects, are taken Notice of, as constant Forerunners of it ; and according to the Manner of all the *Grecian* and *Roman* Writers, its Origine is imputed to a poisonous infected Air.

Dr. John Christopher Gottwald, in his Account of the last Plague at *Dantzick*, communicated to the Royal Society, traces its Origine from *Pinczow*, soon after the Battle between the *Swedes* and *Saxons* in 1702 ; it appear'd near *Cracow* the Year following, and thence moving Westward to *Leinberg*, and Eastward to *Upper-Volbinia* ; it spread in 1704 towards the *Samber* ; in 1705 it went into *Great Poland*, and continu'd in the Neighbourhood of *Posen* till 1707, when it seiz'd *Warsaw* ; in 1708 it came to *Polish Prussia*, and *Thorn*, and in 1709 (notwithstanding all the necessary Precautions were taken by Quarentines, &c.) it gradually insinuated itself into the Suburbs of *Dantzick*, and thence into the Town.

*He observes*, that the Year before the Plague broke out, the Town was annoy'd with an incredible Number of Spiders ; that a hard Frost, and great Quantities of Snow, with Globes of Fire that fell there, and thick stinking Mists which darken'd the Air the Winter before, were look'd upon to presage it ; and from the sudden Flight of all Manner of Birds from the Town, during the four Months the Plague rag'd there,

there, he concludes the Infection must have been in the Air.

He observes likewise, that the Poor suffer'd most, and that Persons who never stir'd abroad caught the Infection, as well as those who daily convers'd with the Sick; and that not one Physician or Apothecary dy'd all the Time: And tho' they had all the Reason imaginable to suspect every Symptom that appear'd, yet several fell sick of it in the Town, before 'twas judg'd to be the Plague, and that without the least Colour of its being communicated by Goods, or Persons.

It had its Rise in the Spring, and was at the Height in Autumn, and almost vanish'd in December; tho' the Churches were always crowded, and neither Trade nor Commerce interrupted any Part of the Time.

*Gemelli* observes, that the Plague in *Constantinople* generally breaks out among the Druggists, and that because the Quarter of the Town where they live is low and marshy.

*Alpinus*, in his Treatise of *Ægyptian Diseases*, takes Notice, that the Plague there, contrary to the Custom of all *European* Plagues, begins in September and always finishes its Course in June; that 'tis brought there, either by the Southerly Winds from *Lybia*, or by the Easterly from *Syria*, and carry'd off again by the Northerly Winds.

*Tyengius* is very particular in his Remark on the Sweating Sickness entering *Amsterdam* with a misty Air, on the 20th of Sept. 1529; and after a Stay of five Days, disappearing without ever returning again. But not to insist on foreign Authorities, which afford numberless Instances of this Kind, let us only take a View of the

Plagues

Plagues that have happen'd in *London*, as more satisfactory and convincing.

In Mr. *Graunt's* curious Observations on the Bills of Mortality, we find four Plagues taken Notice of to have been in *London* the last Century, viz. in 1603, 1625, 1636, and 1665.

The first, in 1603, lasted eight Years, whereof in some there dy'd 4000, and in one Year only, less than 600. Those in 1625 and 1665 almost finish'd their Course in one Year; but that in 1636 lasted twelve Years, in eight of which, there dy'd 2000 *per Ann.* from whence and from the sudden Leaps the Plague has made, as from 128 in one Week to 927, and back again, from 993 to 258, he rationally concludes, these different Effects are rather to be attributed to the Change of Air, than to the Constitutions of Mens Bodies, otherwise than as this depends upon that.

According to the Nature of all Epidemick Diseases, it encreas'd gradually from Spring till Autumn, and was always at the Height between the latter End of *August* and the beginning of *October*; but then decreas'd in a much quicker Proportion: And this seems conformable to its Progress in all other Parts of *Europe*.

From the best Accounts to be met with, we learn, that all our Plagues have been of *Polish* or *Turkish* Extraction; and that the first always have been communicated to us from <sup>\*</sup>*Holland*, and the last from <sup>#</sup>*France*; but never till they had for some time seiz'd the next adjoining Coast to our Island.

Our three last Plagues were from *Poland*, and came thence by <sup>\*</sup>*Holland* to us, as appears by their Bills of Mortality, taking Notice of the Plague there from 1622 to 1628, in 1635 and 1636, and in 1663 and 1664. The

\* The Dutch were ever - enemies to us, on account of trade; these naughty people not having the fear of God before their eyes, send us the Plague to be revenged on us.

# The French as bad neighbours as the Dutch.

The Polish Plagues have generally succeeded hard Frosts, and Snow, as appears from our last in 1665, and that in Dantzick in 1709. The Turkish have followed Southerly Winds and great Rains, as has been frequently observed, but particularly in the great Plague in 1348.

In perusing the Bills of Mortality, from 1603, to 1679, we find but four Years without the Mention of some dying of the Plague; whence it may reasonably be presum'd, that London is seldom free from such Symptoms as are generally reckon'd its Diagnosticks.

On comparing the different Observations of Writers on this Subject, they are all found to agree in its gradual Progression, now in a direct, and then in an oblique Line, but seldom to leave any Part untouched in its Passage. Hills have been often known to have stopt its Progress, and chang'd its Course; but I cannot find any one Instance, that Quarantines, or Lines, have<sup>in</sup> any wise prevented its Motion, without some other concurring and more essential Cause.

From all these Instances it may easily be gather'd, that the Air bears the greatest Share in the producing, or communicating the Plague; but for a further Confirmation, I proceed to examine my first Proposition, viz.

*That neither Goods, nor Persons, are capable of producing, or communicating the Plague.*

And first as to Goods.

*First,* That all pack'd Goods may emit *Effluvia* somewhat offensive to the Unpacker, (and that in Proportion to the Dampness of the

the Bale) we find every Day verify'd, in Trunks of Woollen or Linnen that have lain long untouched, as smelling musty, &c. But allowing the Effect to be the most violent imaginable at first, 'tis vanish'd in few Hours, without any Detriment to Persons at a Distance: For as the Force of a poisonous Vapour, of what Nature soever, depends on the Combination of its Particles, the more they are diffus'd, the more their Force is weaken'd, and consequently render'd less active; as Experience daily confirms, by numberless Instances of Pestilential Vapours in Mines, Vaults, &c. whose Effects are at first generally fatal, but are soon dispers'd in the Air without any further Mischief.

*Secondly*, *Turky* being seldom free from a Pestilential Distemper, our Trade there being increased so considerably within these fifty Years past, 'twould be impossible for us to escape it, (who never made use of the *Italian Caution*) if Goods were sufficient to communicate it; since 'tis notorious to all Traders, that the *Europeans* converse without any Reserve with the infected *Turks*, and daily receive Goods without Fear or Danger, from the Hands of those who have not many Hours to live. And if Goods there, in an infected Air, are no wise dangerous or hurtful to our Constitution, that the bringing those Goods into a purer Air, should make them pernicious, is a Paradox too strange to be comprehended by common Understanding.

*Thirdly*, 'Tis contrary to all Observations of former Plagues here, they never having been communicated to us but from the Neighbouring Coast.

Coa It. Of this, the last Plague of *Dantzick*, *Copenhagen*, and *Stockholm*, is a remarkable Instance; Numbers of Ships having arrived here from thence, after several Months Stay there, (and in a much quicker Passage than can be expected from the *Streights*) laden with Leather and Hemp, (allowed Receptacles of the Plague) without any ill Consequence to us: Yet Quarentines were then but little used, their Advantage not being at that Time thought so considerable.

*Fourthly*, If the Persons on Board (who by their Diet and close Confinement are more susceptible of Infection) come into Port in good Health, unload their Cargo in the *Lazaretto*, and unpack their Bales without receiving any Damage, there is no unprejudic'd Person but will think five Days Quarentine as good as five hundred. And there is this further Reason why the Quarentines should be made as short as possible, because the Infection in Goods is more likely to be increased than abated, by their Stay in the Hold.

*Lastly*, *L'Estrange* takes Notice, that the Plagues in 1625 and 1636, broke out among the Butchers of *White-Chappel*, (the likeliest Place for it always to shew itself here in) where there could not be the least Suspicion of Foreign Goods. And for the last, in 1665, there is no certain Proof how 'twas brought here; but we are assur'd 'twas in *Holland* in 1663 and 1664, and may therefore justly conclude, 'twas wafted over hither from thence, like all others of Polish Extraction.

But I now proceed to the Second Branch of my Proposition, relating to Persons.

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First, As insensible Perspiration is the most copious and subtle Discharge in the Animal Economy, 'tis presum'd from thence, that Diseases may thereby be easily communicable. But the Fallacy of this Inference will appear from this Theorem in Physick, That no noxious Particles, producing any Disease, are ever emitted by this Discharge, they requiring more sensible Evacuations, as being too gross to pass so fine Emunctories. This Experience proves in every Febrile Crisis, but will be better illustrated, by observing our common Method of Relief in a Cold.

Dr. Keill has fully demonstrated by his *Sanctorian Experiments*, that what is generally called *catching Cold*, is not owing to a bare Constipation of the Pores, but to some hurtful Particles imbibed with the Air: And though the Symptoms we are seiz'd with, should be the mildest imaginable, no Cure can be expected without a sensible Evacuation by Sweat, Urine, Stools, &c. or some Critical Eruption on the Lips, Nose, &c. capable of discharging the offending Matter. But this may be added to enforce the Argument, That no Disease can properly be called Contagious, but the Cuticular Kind. The Truth of which is manifest, from the Observation of Persons constantly attending the Sick in all Kinds of Fevers, without any Prejudice; and is true too in Venereal Cases, notwithstanding the many Examples to the contrary, advanced by some Authentick Writers, in favour of the Infection's being communicable by Wearing-Apparel, Linnen, drinking out of the same Glass, and such like absurd Credulities. The Small Pox can be no Object on

on to this, it being the Effect of some lurking Principles in ourselves, and often produc'd by Frights, seeing Persons tho' at a Distance, with the Marks fresh upon them, &c. but those Causes never producing the same Effect in Pestilential Cases, no Consequence can be drawn from thence. But still, if we will reflect without Prejudice, 'twill never be found Contagious, (but like all others of the Cuticular Kind) from the Humour of the Pustula; and its being more or less Epidemick, does certainly depend more on the Constitution of the Air, than on the *Effluvia* from Men's Bodies.

If *Effluvia* from Persons were capable of infecting, 'twould be impossible for any attending on the Sick, ever to escape, as daily and hourly receiving such Quantities of Poison as must destroy them: Yet the Consuls at *Marseilles*, and the Physicians at *Dantzick*, are remarkable Instances to the contrary, while Numbers fell at the same Time that had no Communication with the Sick.

*This* dly, From the Plague's Continuance here many Years, its weekly Leaps, its gradual Increase and Decrease, &c. we may justly conclude with Mr. *Graunt*, that there cannot be the Rational Consequences of its being communicated by Persons.

*Fourthly*, Dr. *Hodges*, in his Account of the last Plague here, takes Notice, that on the Return of the People to *London* in the Winter, the Houses which before were full of the Dead, were now again inhabited by the Living, and the Shops which had been shut up most Part of the Year, were opened again, and the People went chearfully about their wonted Affairs of

Trade and Employ. And even, what is most beyond Belief, those Citizens, who were before afraid even of their Friends and Relations, w ould without Fear, venture into the Houses and Rooms where Persons a little before had breath'd their last: Nay, such Comfort did inspire the languishing People, and such Confidence, that many went into the Beds where Persons had died, even before they were cold, or cleansed from the Stench of the Disease, and this without any succeeding Communica-  
tion of the Plague.

'Twas found of the greatest Service in the Plagues of 1625, and 1636, to take off all Confinement from the Sick, and to allow a Communication: The same is observed by *Gassendus*, of the Plague at *Digne* in *Provence*, in 1621, where a Liberty being then allowed, there did not dye the 80th Part of the Number that suffer'd two Years before, when obliged to a closer Confinement. *Mercurialis* makes the same Observation of the Plague at *Milan*.

*Lastly*, Our last Mortality among Cattle, may properly be call'd a Plague in their Species, as taking its Origine from *Hungary*, and thence making a gradual Progress to *Holland*, with the usual Velocity and Symptoms observed in Polish Plagues afflicting Mankind. But whatever may be allowed in favour of a Communicative Theory on the Continent, there can be no Salvo for its crossing the Channel to *Islington*.

Having, I hope, sufficiently prov'd that neither Goods nor Persons are capable of producing, or communicating the Plague, I come now to my Second Proposition, whereby I am to shew,

That

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thor writes that  
it was sent us in  
coach and six.  
our friends the  
utch; to deprive  
of our own but-  
r and cheese, in  
der to oblige us  
to buy theirs.

*That the Air is only capable of producing, or communicating the Plague; and therefore, that Lines and Quarantine are of no Use, and even pernicious.*

Since whatever is advanc'd in Relation to Goods or Persons, can only have regard to their communicative Faculty in a Plague, the productive and most essential Cause, cannot by their Hypothesis be discover'd or accounted for: Whereby, unless we submit to a most defective Theory, we are still at a Loss, and are forc'd to have Recourse to somewhat more extensive, for a Solution to its several *Phænomena*.

Thick stinking Mists generally observ'd, hanging over infected Places and distemper'd Cattle, unusual Swarms of Insects seeking a purer Air, a general Flight of Birds from infected Places, all Diseases being attended with more violent Symptoms, before the breaking out of the Plague, and during its Continuance, &c. are manifest Indications of an infected Air, and universally receiv'd as such by all ancient Writers, without being discuss'd or explain'd: But this Difficulty may be clear'd up by the many modern Improvements made in natural Philosophy, affording us the following Positions.

Air in its natural State, is a subtle, active Fluid, capable of entring our Pores, and communicating such Particles as it consists of to the Blood; the Cause of all Motion in animal Life, as always operating on our Solids, and circulating with our Fluids, and of such a Consistence as will preserve our Fluids in a due Medium

Medium between Stagnation and Dissolution ; but when by accidental Causes it is made to deviate from this Temper, it becomes more or less hurtful, and the Cause of many Diseases. The Sun always acting on the Terraqueous Globe, such volatile Principles as the Surface most abounds with, must necessarily be exhal'd from it ; whence an infinite Variety of heterogeneous Principles is sustain'd in the Air, besides what are frequently emitted by Volcano's, Mines, &c. so that making Allowances for the Difference of the Soil and Situation of any Country, a general Hypothesis for all its Epidemick (and consequently pestilential) Diseases, may rationally be formed. As to the Soil, daily Experience makes us sensible of the different *Effuvia* from Earth : How refreshing are those that generally ascend from plow'd Grounds, in respect of such as are emitted from putrid Marshes ! How agreeable is the Air here, after a gentle *May* Shower ; but how insupportable is the ascending Vapour after heavy Rain in most hot Climates : How pleasant are our little Eminencies, and how pernicious our Fenns : From whence we may learn why burning Feavers in hot sandy Countries, *Diarrheas* in the moist, and scorbutick Symptoms in the Northern Climates, are Epidemical. As to the Situation, Wind being but a Stream of Air, is capable of making very great Alteration in our Temperament, as bringing with it such Particles, as the Climate it sprung from most abounded with, whereby all Countries are variously affected by the change of Wind and Seasons.

In all Parts of *Africa*, and *Asia*, the Land Winds are scorching and unhealthy, as blowing over a large Continent affording only hot sulphureous Particles ; but the Sea Winds are refreshing and cool, from the watery *Effluvia* the Air is impregnated with.

The Western Parts of *Europe* suffer most from an Easterly Wind, which brings commonly excessive Heat or Cold, as it comes from a Northern or a Southern Latitude. The North-East is the most pernicious to *Great Britain* ; the Southerly Parts of *Europe* lying on the *Mediterranean*, dread the Southerly Winds at such and such Points ; notwithstanding their Violence must be considerably abated, by their crossing the Sea and mingling with its Particles.

All Countries afford some noxious *Effluvia*, tho' generally so few as when diffus'd in a large Medium they are render'd imperceptible ; but some emit such Quantities as makes every Breath hazardous, as *Judæa* from its dead Sea and *Bituminous Lake*, most Parts of *Tartary*, *Lithuania*, *Hungary*, &c. from their many unhealthy Marshes, Lakes, Mines, &c. impregnating the Air with such a Load of Salts, Sulphurs, metalline and arsenical Fumes, &c. as when imbibed, will produce the most surprizing Effects ; and in Proportion to that which has the Ascendant in the Mixture we may judge of the Symptoms ; Nitre in the *Polish* Plagues, and Sulphur in the *Turkish*, seems to be most Predominant.

Earthquakes, or a Number of dead Bodies lying long unbury'd, are capable of producing a Plague, from the many putrid Vapours which must be necessarily emitted from them ; bad Diet

Diet and Dejection of Spirits will also considerably encrease the Malignity.

If in a warm Season, when Exhalations are rais'd in the greatest Plenty, the Wind should blow with any Continuance, from a Country thus furnishing pestiferous *Effluvia*, a distant Climate may easily share the Infection; for tho' (like a few Particles of Salt in Water) they may at first be so diffus'd in the Medium, as not to be perceptible; yet when more saturated with a new Supply by the Continuance of the Wind, their Property must be communicated, and its Continuance will be dated from the Wind, and the new Fuel will be always supply'd within its Progress, by a constant Accretion of Matter of the like Texture, with which all Countries more or less abound; which may be readily understood from the great Sir *Isaac Newton's* Laws of Attraction.

Its Force may be computed either from the Particles being more or less volatile and agitated; whence the hottest Weather (*Ceteris paribus*) is most Pernicious, or from the Soils being more suitable to receive and assist it: Which is the Reason why it appears first in low Marshy Grounds in *Constantinople*, and generally in the Slaughter Houses in *London*.

All Parts of Air are not equally affected, (for then no Person could well escape) for the Particles by their mutual Attraction will be kept together, and thereby go in a Current; and from their Weight naturally requiring a heavy Air, the low Grounds must suffer more than the Hills.

From this Theory, all the *Phænomena* of the Plague may be rationally accounted for; but  
as

as a farther Confirmation of the Hypothesis let us consider a little the Nature of Lightning and Blights.

The many surprizing Effects of Lightning, shew the Variety of Particles exhaled and sustain'd in the Air in all Climates; which when by the Quantity of Matter, it is once put in Motion, will continue in it, while there is any Supply of Sulphur, Nitre, &c. within its Power of Attraction; and from its Necessity of often appearing to destroy those Particles and purify the Air, (considering the Resemblance it has in this, to the Plague) the Observation that we are liable to be visited by it, at a certain Term of Years, may be rationally accounted for.

Bights in the Vegetative, which are of the Nature of Plagues in the Animal Life, are always the Effect of Easterly Winds; which are the most Pernicious of any here, by the Abundance of noxious Particles they bring with them: These Particles by their mutual Attraction being brought near together, exert their Force in a narrow Compafs. As all Seeds require a proper Soil to produce them in; so these have no Effect, but where the Tree or Plant is predispos'd to receive the Impression, and generally it's only on a particular Species, without prejudicing any other in its Passage; and sometimes on a single Branch, as the weakest and least capable of resisting the Poison.

By this we may account for the Mortality of Cattle, seizing but one particular Kind: Why Foreigners are seldom affected, whilst a Pestilence makes the greatest Havock among

the Inhabitants ; why sometimes the Old and sometimes the Young, now the Male and then the Female Kind, are most sensible of its Influence.

A Plague in *Egypt* may be thus explain'd. The Southerly Wind blowing thro' *Africk*, and the Easterly thro' *Syria*, from *September* generally till *June*, must bring such Quantities of noxious Particles as are pernicious ; but the Northerly Winds always beginning in *June*, and blowing hard for two Months, purify the Air, and carry off the Malignity : That it's not owing to the *Nile*'s flowing and filling up the Canals, which emitted the *Effluvia*, is evident ; the Canals being never fill'd till the *Nile* is at its Height, which is in *September*, and consequently that Month and *October*, ought to be most Healthy, if that was the Cause.

The Plague at *Marseilles* may be thus rationally accounted for.

The preceeding Summer being excessively hot, from the Continuance of the South-East Winds blowing thro' *Africk*, must have brought very large Quantities of poisonous Particles to the opposite Shore ; notwithstanding the Alteration receiv'd from the Sea in their Passage. This is confirm'd by the incredible Number of Locusts, (which are always known, to presage an infected Air) that were forc'd to take flight thence to *Provence* for Shelter, where they devour'd every Thing on the Ground, so that a Tax was levied to destroy them : These Particles being condensed by the cold Winter, fell by their own Specifick Gravity to the Earth, without any Sensible Injury ; but being exhaled,

haled again the succeeding Spring, and put in Motion with a Mixture of putrid Particles emitted from the Locusts, that lay in the Country all the Winter in Heaps, and prevented the usual refreshing Exhalations from Plants, Trees, &c. were capable of producing the Plague.

Thus we may explain our late *Dunkirk Fever*, (but improperly so call'd, as not attended with any Mortality, nor ending in Agues of some Months continuance, like that of *Dunkirk*) as being the Plague wafted over from *Copenhagen* to us ; but diminish'd considerably of its Force, by a Mixture of watery Particles in its Passage ; and our Air being then very pure, did not furnish a sufficient Supply to make it pestilential. This is confirm'd by its Course from East to West, generally observ'd in all our Epidemical Diseases.

That the Air was the Cause of that in *Marseilles*, is confirm'd from the Malignity always increasing, as the Wind set into the Shore, (as our last Plague did with the Easterly Winds) and from the malignant Fevers which have been ever since, and still continue, on the Coasts of *Spain*, with the Small-Pox, very fatal, and generally attended with Purples ; which our Garrison at *Gibraltar* has felt too sensibly.

This Plague at *Marseilles*, is the only Objecti-  
on in Favour of Goods causing a Plague, to be  
met with in History ; (excepting such as that  
of *Forestus*, of a Man's touching a Spider's  
Webb, which occasion'd a Pustula ; and that a  
Pestilence, tho' no Person had dy'd in the House  
for six Months before, and the House had been

cleans'd in all Places but that) But considering the Prejudice of Persons ignorant of the true Causes of Things, (as is evident from the many Facts laid down by ancient Writers, for the Proof of Venereal Cases variously communicable) this may be easily solv'd, from what After-Reflection begins to be advanc'd, by Persons of Credit thence, that there was an unusual Sickness there, before the Arrival of the Ship from *Sidon*, tho' without being suspected to be Pestilential: Which seems agreeable to the Account from *Dantzick*, that it was there a considerable Time, before it was known, or judg'd to be the Plague.

From what has been already advanc'd, the pernicious Consequences of Lines and Entrenchments is sufficiently demonstrated, there not being the least Colour of Reason for its Support; and I fear we shall find, at the too fatal Expence of our Neighbours, that 'tis contradictory to Experience also. Since we are all equally Strangers to the Nature of the Plague here, it is the more reasonable we should have Recourse for Information, to those that have convers'd longest in Countries most subject to it; whereby we may learn, that the *Turks* Behaviour therein, is agreeable to Reason, from the many Instances, as well in *London*, as other Places, of the great Advantage in taking off all Confinement from infected Persons. On perusing the Account of Plagues in the last Century at *Marseilles*, I cannot meet with any one of them that ever was felt here; nor do I think there is the least Reason for apprehending any Danger till it has reach'd *Bretagne*; which, according

ing to the usual Progress of all Plagues, will require several Years.

From the present great Plenty of all Manner of Provisions in the Nation, the wholesome Temperament of our Air, not in the least dispos'd to receive Infection, we may be assur'd, that no Signs (generally presaging a Plague) are come among us. Why then all these Fears? This Consternation? As if 'twas already in the River. Let us reflect a little on our Behaviour, when the Mortality was last in the *Baltick*, tho' we had just Grounds for our Apprehensions. How easy our Quarentines? How few were our Preparations to receive it? No Damps then on Trade; but the honest industrious Merchant reap'd the Profit of his Voyage, without Lett or Molestation, who deserves all fitting Encouragement from the Sovereign Power, that is consistent with the common Safety. If, in Compliance to other States, a Quarentine will be thought necessary, the Time may (after the Manner of *Turky Ships* in *Italy*) be shorten'd, according to the Health of the Country they last came from. But this must be humbly submited to the Civil Power.

From what has been said, we may learn, wherein the true Method of Prevention consists, *viz.* Either in warding off such Particles, as may be communicated to us by an infected Air, or in putting ourselves in such a Disposition, as may render their Power the less likely to hurt us.

It seems hard to suggest any Method how the first should be obtain'd; but if attainable, it may

may be by continu'd Fires, or firing Guns along the Coast, when the Wind blows directly from an infected Place : The Reason is obvious, and Experience confirms it from the present Practice of the *Hungarians*, in making Fires about their Camp, to ward off an infected Air, which is agreeable to the Custom of the Eastern Nations.

We read that *Hippocrates*, (the great Observer of Nature) preserv'd *Greece* by these Means, and *Lemnius* tells us of a Garrison at *Tournay*, that got rid of a Pestilential Distemper by firing of Cannon round the Town, and hereby a Stop was put to the Current of the Air coming that Way, as Calms are always the Rational Consequences of a Sea-Fight.

The Objection from Dr. *Hodges*, (that double the Number of Persons dy'd here, on the Days Fires were made in the Streets, during the last Plague) is of no Force; because made in an unseasonable Time, when it was at its Height. For from the great Rarefaction of the Air, the Symptoms of Persons already seized, will be considerably augmented, but a great Quantity of noxious Particles being thereby destroy'd, its further Malignity will be prevented: Which was true here, for the next Week the Number much abated, and so continued.

The *Polish* Plague often succeeding hard Frosts, and having Nitre for its Basis, large Quantities of Water flung up in the Summer, may be beneficial. But in the *Turkish* Plagues from its Sulphur, generally attended with Rain, Fire may particularly be useful.

The Second Consideration may be provided for, by a regular Method of living, and avoiding

ing all Excess, by Cleanliness in Hospitals, Goals, publick Slaughter-Houses, and Streets, by preventing all Stoppages in Water, Pipes, and Shores, by agreeable pleasant Perfumes, (but I can't by any Means recommend the French Method with Arsenick) and chiefly by supporting the People's Spirits, and not suffering them to be depressed with unreasonable Frights and Jealousies: Which seems to be absolutely necessary in all Epidemick Diseases, of which the Small Pox is a noted Instance.

If yet we should be visited (which God in his great Mercy avert) publick Store-Houses ought to be set open in every Parish, with convenient Infirmaries for such of the Poor as should desire to be carry'd there; but no Compulsion used.

All Evacuations that depress the Spirits, ought to be avoided, as Bleeding, Purging, &c. But Vomits seem very reasonable and proper, especially when the Blood tends to a Stagnation: Not only as they cleanse the first Passages, and thereby render Medicines afterwards the more effective, but as they cause a general Shake in the Solids by their different Vibrations, dispose the Blood to the more laudable Secretion on the Pores, and the easier acquir'd by the succeeding gentle Diaphoreticks, mixed with Acids, or Volatile Salts, as the Symptoms indicate. But this must be reserv'd for a particular Treatise.

And now, since our Lives are but uncertain at the best, let us follow the Glorious Example of the Bishop and Consuls at *Marseilles*, and, without Fear, assist and relieve our distressed Brethren, not knowing how soon it may be our own

own State, to want the Assistance we have a ready denyed the Afflicted ; always observin that never erring Rule, *To do unto all Men as i wou'd they shou'd do unto us* ; and so by our Brotherly Love, and Charitable Offices toward them, we may take away the too just Ground given for the Mahometan Sarcasm, *The Loss of all Charity to his Fellow Creatures, is Principle only becoming a CHRISTIAN.*

F I N I S.

